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ABSTRACT

A practicum was undertaken to develop a syllabus and support manual for a faculty development workshop in on-line information gathering and communication through the Internet for faculty at the Community College of Allegheny County (CCAC) in Pennsylvania. The practicum sought to determine the appropriate content and amount of time faculty would be willing to spend in an Internet workshop. Research procedures included a literature review on the impact of technology and education, an Internet demonstration for college faculty, and extensive research of on-line resources. The practicum resulted in the development of a 3-hour workshop titled, "Traveling the Data Highway." The workshop provided hands-on experience and a 26-page resource manual. Based on study findings, several recommendations were made to the CCAC Director of Computer Services, including the following: (1) the workshop be offered at the start of each semester; (2) faculty be encouraged to share their on-line experiences by e-mail; (3) the computer lab be connected to the Internet to provide workshop facilities; and (4) the workshop be revised annually to keep up with rapid Internet changes. The study concludes that a short Internet workshop can provide an opportunity to improve faculty scholarship and reduce feelings of faculty isolation. Appendixes include the workshop syllabus and the "Traveling the Data Highway" manual, which covers the history of the Internet; exercises for using e-mail and searching on-line library catalogs at other colleges and universities; and descriptions of 10 online public access catalogs. (KP)

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ED 375 889

THE DEVELOPMENT OF A FACULTY DEVELOPMENT WORKSHOP ON COMPUTER ACCESS TO THE INTERNET

Human Resources Development

Pearley Cunningham
Community College of
Allegheny County

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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A practicum report presented to Programs for Higher Education in partial fulfillment of the requirements for the degree of Doctor of Education

Nova Southeastern University

Revised September, 1994

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Abstract of a practicum report presented to Nova Southeastern University in partial fulfillment of the Requirements for the degree of Doctor of Education

THE DEVELOPMENT OF A FACULTY DEVELOPMENT WORKSHOP ON COMPUTER ACCESS TO THE INTERNET

by

Pearley Cunningham

Revised September, 1994

A growing need exists for community colleges to renew the skills of their faculty. The many new tools of the information age did not exist when the majority of current faculty received their degrees. The purpose of this study was to develop a syllabus and support manual for a workshop in on-line information gathering and communication through the Internet. The research questions were (a) what is the appropriate content for a faculty workshop on the Internet, and (b) how much time would the faculty be willing to spend in a workshop? Research procedures included a literature review on the impact of information

technology on society and education, an Internet demonstration for college faculty, and extensive research of on-line resources.

The results of the study were a three hour workshop syllabus using a hands-on experience based approach and a 26 page resource manual. The manual was reviewed for accuracy and ease-of-use by a group of faculty skilled in computer operations. The conclusion of the study was that a short workshop can provide an opportunity to improve faculty scholarship through on-line information gathering and communication.

Recommendations to the Director of Computer Services include needed facility changes to support the workshop, a suggested schedule, and that the workshop should be revised annually to include the rapid changes in the Internet.

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Chapter 1

INTRODUCTION

Community colleges today are facing an aging, professionally isolated faculty. The new tools of the information age of on-line information retrieval and electronic mail did not exist when current faculty received training in their discipline. To use these new tools the faculty need professional development in on-line activities. The purpose of this study was to develop a syllabus and manual for a workshop in on-line information gathering and communication.

Background and Significance

This project developed the syllabus for a workshop in on-line information gathering and communication through the Internet. With these new skills, community college faculty can facilitate their individual scholarship.

An important means for individual faculty development is through the teacher-scholar model. A teacher-scholar, in addition to teaching, is actively involved in the study of new material and methods. By incorporating new ideas into the teaching process, the faculty improve the overall educational process of

their students. To implement this concept at South Campus required that the faculty have access to current information in their field.

The Community College of Allegheny County (CCAC), South Campus, is similar to most two year colleges in that the teaching staff is small, having in some disciplines only one specialist. Subject matter updating has been a process of individual scholarship. Although the campus library is eager to assist the faculty, the library does not have the resources to carry a wide variety of references. However, when identified, nearly any material can be secured through the inter-library loan process.

The college has placed a microcomputer in each faculty office. In addition, a local area network connects these computers. Through this network all faculty have access to the Internet. For this investment by the college to increase the scholarship of the faculty, they needed training in finding information on the Internet. The materials developed for this project have provided that initial training.

Relationship to Human Resource Development Seminar

The study guide to the Human Resource Development seminar discusses the impact of an information rich

society. New developments in telecommunications, interactive systems, electronic mail, on-line databases and computer conferencing are changing the way business and industry communicate and operate (Groff, 1990). For college faculty to present these topics to students, they must have access to on-line resources. This study developed a syllabus and manual to train faculty to use the Internet for information gathering and communication.

Research Question

There were two research questions in this study. First, what is the appropriate content for a workshop on information gathering on the internet? The second question was how much time would the faculty be willing to spend in a workshop?

Chapter 2

REVIEW OF THE LITERATURE

In Toffler's Third Wave (1980), he calls for an explosion of information. Toffler's Power Shift (1990) ties the actual creation of wealth to the rapid access and application of information. These technological changes are impacting the colleges, their students, and the faculty. Keeping pace with change taxes the college's budget and the faculties' expertise.

Recent studies estimate that over 60% of the technical education faculty are over 40 years old (Dugger, 1990). Further, the number one need expressed by technology faculty in one large system was for topic and subject matter updates (Caldwell, 1988). Many colleges are concerned that these needs will influence the vitality and quality of their programs. The report by the Commission on the Future of the Community Colleges, Building Communities (1988), states that the need to renew the faculty is absolutely critical to prevent the college's faculty from sliding into obsolescence.

In a study of two year physics faculty, Tavel (1989) found that 63% of the colleges have either one

full-time or only part-time physics teachers. This type of professional isolation makes faculty development difficult. One means of reducing that isolation is through the teacher-scholar concept (Parilla, 1989) (Commission on the Future of the Community Colleges, 1988) (Lord, 1988). Scholarship, too often, is used to apply only to research. But, scholarship is a broader term including ". . . professional activity, artistic endeavor, engagement with novel ideas, community service, pedagogy, and research and publication" (Lord, 1988:2). Typical activities of community college faculty are developing innovative materials, writing, giving papers and lectures, creating original art or poetry, and writing grants and reports. Lord (1988) calls teachers at the community college involved in these activities "teacher-scholars". To implement this concept requires that the faculty have access to current information. This information is available through on-line computer databases (Ashmore, 1989). Through the use of a computer network called the Internet, faculty can bring information from around the world into their offices and classrooms. This Internet system connects over one-and-a-half-million

regional, government and campus host computers in the United States and five hundred thousand host computers in other countries (Rickard, 1994). In 1991 the High Performance Computing Act called for the creation of a new "information superhighway" to expand the existing Internet. This legislation proposed a very high speed service and universal access for schools and libraries (LeQuey and Ryer, 1993). In a recent round table discussion, Vice-President Al Gore emphasized the importance of the information superhighway to business, industry, and education in the future (Messner, 1994). Sen. Bob Kerrey (D-NE) has stated that "We must achieve universal access for teachers and students, because this is the only way to achieve equality of opportunity in our educational system" (Manzo, 1994). In the manual for the seminar Human Resource Development, Groff notes the impact of an information rich society on Human Resource Development. New developments in telecommunications, interactive systems, electronic mail, on-line databases, and computer conferencing are changing the way business and industry communicate and operate (Groff, 1990). In an information society, the faculty of a college must have access to these resources to

maintain an active, current knowledge of their field.

The literature suggests that in today's society we have an expanding application of technology to the storage, access and application of information. These changes have occurred since the average faculty member began teaching. The rapid pace of these changes has left the faculty with a sense they need to update their academic skills, and the colleges with the problem of meeting individual needs.

The workshop developed by this practicum addresses several of the concerns expressed in the literature. For colleges to assure the needed equality of opportunity proposed by the information superhighway to its faculty and students, training will be needed. By learning to acquire information through the Internet, the faculty can acquire information to improve their scholarship in their field. Also, with e-mail training the faculty can reduce their feeling of isolation through contact with colleagues.

Chapter 3

METHODOLOGY AND PROCEDURES

The development problem solving methodology was used to prepare a course syllabus for a three hour workshop on the use of a personal computer to access the Internet for information gathering and communication (see Appendix A).

To gauge the interest of faculty in the Internet, a group of 14 two-year college faculty were invited to an orientation presentation on the Internet on March 18, 1993. Only one of the attendees had any previous experience with the Internet. Following the presentation, the faculty were asked for input into the structure of a workshop on the use of the Internet. The consensus was for a small group classroom setting with a hands-on component. The group stated the duration of the workshop should be from one to three-and-one-half hours.

A meeting with the Director of Computer Services to establish sufficient objectives to provide the desired Internet skills produced these outcome objectives:

1. The participants will use the site specific appropriate method to connect their personal computer

to the e-mail and Internet services.

2. The participants will compose an e-mail message on-line and send the message to a colleague via the Internet.

3. The participants will receive and transfer to disk their e-mail messages.

4. Given a list of college libraries and appropriate Internet addresses, the participants will select a library and access the On-line Public Access Catalog (OPAC) through the Internet.

5. Given a topic and appropriate description, the participants will search an OPAC through the Internet and produce a list of three to five references.

Response to the orientation demonstration revealed that the faculty participating in the workshops would have different discipline backgrounds and levels of expertise with computers. For this reason, the items presented use as little prior computer experience as possible. Workshop design elements required direct application of the following basics of adult education: (a) need for learning to have relevance to work; (b) a provision for the inclusion of prior learning and experiences; (c) immediate feedback, through hands-on activities, of

new skills learned (Knowles, 1984).

In the spring of 1993 the college expected to provide Internet access to the faculty by September 1993. However, staffing restrictions caused the schedule to change in mid-summer. The new schedule called for late spring 1994 as the access date. To proceed with the workshop development, the activities were designed around the PINET service of the American Institute of Physics. This is a dial-up service available to anyone. As each portion of the manual was completed, the activities were completed using the PINET service. A detailed manual provides support materials that the faculty can use in their offices. The manual reflects the workshop structure with three sections; lecture/demonstration, e-mail techniques, and on-line OPAC access. The lecture provides orientation to the concepts, explains terms and provides an on-line demonstration of the skills presented in section two and three. The remaining sections provide hands-on activities with the Internet to guide participants in achieving the objectives of the workshop.

The facilities for a group presentation were not available at the college. To conduct the workshop a

room with computers networked to the Internet or a phone and modem connection is needed. Since a group session was not possible, four individuals who were familiar with computers where given copies of the proposed workshop manual, and asked to try the activities, and evaluate its clarity and practical application. Each of these experts was also interviewed for additional feedback on the workshop. Their feedback was used to produce the workshop manual presented in Appendix B.

Definition of Terms

The following terms have specific definitions as used in this study:

1. Electronic Mail (e-mail) is a communication service that allows the rapid exchange of written messages on demand.
2. Internet is the name given to a series of computers, through out the world, that are interconnected for the exchange of files.
3. Teacher-Scholar is a term used to refer to the broad range of activities beyond the teaching of class, such as developing innovative materials, lectures, writing, grants or creating original work.

4. On-line Public Access Catalog (OPAC) is the generic name for the electronic equivalent of a library card catalog.

Limitations

Because the college Internet connections are behind schedule, the workshop manual has not been tried with a group. After the materials are used, some additional revision may be needed. Also, the Internet is changing so quickly, the techniques covered will need to be updated annually.

Assumptions

Given the proper tools to access information, the faculty will be motivated to enthusiastically apply these new skills to improve their teaching and scholarship. Further, the students will "catch" this enthusiasm.

Chapter 4

RESULTS

Based on the comments of faculty attending the orientation session presented in March of 1993, it was decided a three hour hands-on workshop should be developed. The next step was to meet with the Director of Computer Services and establish the objectives an Internet workshop should meet.

Selection of Internet Service

When the college announced that Internet access for the faculty would be delayed until Spring of 1994, it was decided to develop the workshop manual based on a dial-up service. The PINET service was selected. This service is provided by the American Institute of Physics. This PINET Version of the manual can be used with the two year college physics community. After developing a manual for one service, it was felt that other versions could be developed easily.

Writing of the Manual

The workshop was divided into three sections. First, a lecture/discussion session presents critical background material and an on-line demonstration. A lecture mode was selected to allow the presentation to change as the Internet information changes. The

second section details how to send and receive e-mail on the Internet. Although the basic concepts of e-mail are universal, the specific activities and commands presented are unique to PINET. For a different system the details of the activity would need to be changed. The third section involves the access to the On-line Public Access Catalog (OPAC) of libraries around the country. These activities and instructions are not unique to the PINET system. The writing of this section required the most research. There are hundreds of libraries available on the Internet that allow free access to their OPAC. These libraries use a variety of different software interfaces to access information. For the beginner, some of these systems can be quite frustrating. From these hundreds of libraries a group of ten were selected. They are listed in the workshop manual found in Appendix B. Each library selected was used extensively to assure that the beginner could find information with little instruction; could get out of the system easily; and could find items of interest. For example, the University of Saskatchewan in Canada was selected because it has a very easy-to-use

database of ERIC files open to Internet use. Some libraries restrict ERIC access to only on-campus use.

Review of the Manual

Since the college system was not available for use, it was not possible to offer the workshop to a group. To test these materials, however, a group of individuals familiar with computers were asked to review the workshop manual and try out the activities. The individuals were the Director of Computer Services of South Campus, a laboratory instructor in engineering technology, a Professor of English, and a Systems Engineer at a local university. The first two individuals used the college's computer. The third was also a Nova University student and used the Nova system to test the OPAC activities. The System Engineer used the Andrew system at Carniege Mellon University. Each test participant submitted written comments as well as verbal suggestions. The major revisions suggested were to expand on the e-mail section and include a table of commands for the system. This may be seen on page 13 of the manual. The time breakdown for the workshop on page 3 was added at the suggestion of one reviewer. Two reviewers commented on the overall look of the manual.

They felt it should have a more varied "look". To produce the finished manual, the complete document was converted to a Windows wordprocessor, and a variety of typefaces was used. The finished manual and syllabus addresses all workshop objectives and satisfied the research questions of both appropriate content and seasonable length of time.

Chapter 5

DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Discussion

The faculty development workshop was titled "Traveling the Data Highway" to call attention to the connection of this local initiative and the national information superhighway proposed by the High Performance Computing Act. The literature proposes that future jobs and wealth creation will require knowledge and skills in on-line multinational information gathering. Sen. Kerry (Monzo, 1994) and others (LeQuey and Ryer, 1993) have expressed a need for universal access to the information superhighway for schools. To assure this universal access will provide an equality of opportunity, the teachers must be knowledgeable and skilled in using this service. Additionally, through e-mail the feeling of professional isolation noted by Tavel (1989) can be reduced. The workshop materials developed by this project teach the faculty the initial skills to incorporate on-line information in their own scholarship.

Changes in the Internet are rapid. The first section of the workshop uses a lecture/ demonstration session to present current information that is relevant to the faculty. In section two and three hands-on activities provide the immediate feedback important to adult education. In section two the faculty learns techniques and skills needed to send and receive electronic mail. In section three of the workshop the faculty learns to remotely access college and university library on-line catalogs. The manual provides a representative sample of on-line resources including the ERIC database. At the end of section three a series of follow-up discussion questions allow the workshop leader to focus the faculty on the relevance of these new skills to their work.

The list of ten libraries in the workshop manual represents millions of on-line records and provides an immediate resource to the faculty. Using this simple list the faculty can extend their teacher/ scholar activities from coast to coast without leaving their office.

Conclusions

When provided the necessary training on the use of on-line resources, such as the Internet, faculty

can manage the rapid information changes in our modern world. The access to e-mail provided by the workshop can reduce the feeling of isolation identified in the literature. With increased confidence in their use of the technology, the faculty can better utilize information resources to improve their teaching and scholarship.

Implications

Building Communities (1988) stressed the need to revitalize the faculty, but it would be difficult to prepare workshops in every discipline. The workshop "Traveling the Data Highway" provides the faculty with new skills that can be adapted by individuals to help keep up with their discipline. Implicit in this training is the belief that once the faculty have confidence with these new skills, they can show their students how to apply the new skills to the discipline. The application in the modern world of business and industry of information technology is a fact of life our students must face. It is, therefore, critical to the vitality and quality of the college program for the faculty to develop these skills. Also, by participation in on-line activities such as e-mail, the faculty will gradually replace the

feeling of professional isolation with one of collegial community.

Recommendations

The following recommendations were made to the Director of Computer Services of South Campus of the Community College of Allegheny county:

1. The workshop shall be offered twice during the year at the orientation session at the start of each semester.

2. Faculty should be encouraged to share (by e-mail) their on-line experiences.

3. One computer laboratory at the campus be connected to the Internet to provide the facilities to offer the workshop.

4. The workshop should be revised annually to keep up with the changes in the Internet.

The Director has scheduled the workshop to be offered twice during the 1994-95 school year. The Director has also agreed to upgrade one computer laboratory on campus to provide facilities to offer the workshop in groups of 15 faculty. This will allow about one third of the South Campus faculty to be trained in the first year.

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APPENDIXES

Appendix A

Workshop Syllabus

Traveling the Data Highway

A Three Hour Workshop

Course Description:

This workshop will introduce the participant to the world of on-line computer networks. The skills needed to use the Internet, a collection of thousands of networks world wide, will be presented. Hands-on experience with the Internet will be provided to the participants. The techniques of e-mail and remote access to college libraries will be emphasized.

Prerequisite: Prior experience with DOS on a personal computer.

Course Objectives:

(1) The participant will use the site specific appropriate method to connect their personal computer to the e-mail and Internet services.

(2) The participant will compose an e-mail message on-line and send the message to a colleague via the Internet.

(3) The participant will receive and transfer to disk their e-mail messages.

(4) Given a list of college libraries and appropriate Internet addresses, the participant will select a library and access the Online Public Access Catalog (OPAC) through the Internet.

(5) Given a topic and appropriate description, the participant will search an OPAC through the Internet and produce a list of three to five refereces.

Course Outline:

Traveling the Data Highway

I. Internet Structure

A. History

1. ARPANET
2. NSFNET
3. Regional Network

B. Future

1. National Research and Education Network
2. Commercialization

C. Internet Protocol Addresses

1. User Name
2. Host Name
3. Domain Name

II. Major Features

A. E-mail

1. Sending Mail

2. Receiving Mail

3. User Groups

B. Telnet Facility

1. College Catalogs

2. Databases

Laboratory Activities:

Project 1: Sending and Receiving E-mail

Project 2: Remote Access to College Libraries

Appendix B

Workshop Manual

Traveling the Data Highway

A Faculty Development Workshop

PINET Version

Workshop Coordinator
P. Cunningham, Professor
CCAC, South Campus

TRAVELING THE DATA HIGHWAY

Welcome to the Traveling the Data Highway Workshop. In this workshop you will have the opportunity to gain the basic skills necessary to send and receive electronic mail around the world. Also covered will be the techniques needed to search, through the Internet, the Online Public Access Catalogs (OPAC) of hundreds of libraries worldwide.

There are a few prerequisite skills that will be assumed for the workshop.

(1) The participant will be able to run programs from the MSDOS prompt.

(2) The participant can locate files in directories and subdirectories.

(3) The participant can name files using drive designation, file name, and file extension.

The above skills can be obtained through other workshops offered by the Community College of Allegheny County, South Campus Computer Center staff. Access to a personal computer either in the office or a college laboratory will also be assmed. This access can be either through direct connection to a network or by phone modem. The specific objectives of the workshop are

(1) The participant will use the site specific appropriate method to connect their personal computer to the e-mail and Internet services.

(2) The participant will compose an e-mail message on-line and send the message to a colleague via the Internet.

(3) The participant will receive and transfer to disk their e-mail messages.

(4) Given a list of college libraries and appropriate Internet addresses, the participant will select a library and access the Online Public Access Catalog (OPAC) through the Internet.

(5) Given a topic and appropriate description, the participant will search an OPAC through the Internet and produce a list of three to five references.

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3

Workshop Schedule

The workshop outline with timeline can be seen below. Following the lecture/ demonstration the participant will have the opportunity to practice the skills covered in the lecture through two hands-on activities

1:00 Lecture
- I. Internet Stucture
  - A. History
    1. ARPANET
    2. NSFNET
    3. Regional Network
  - B. Future
    1. National Research and Education Network
    2. Commercialization
  - C. Internet Protocol Addresses
    1. User Name
    2. Host Name
    3. Domain Name
- II. Major Features
  - A. E-mail
    1. Sending Mail
    2. Receiving Mail
    3. User Groups
  - B. Telnet Facility
    1. College Catalogs
    2. Databases

2:00 - 2:15 Break

2:15 Activity 1 - - Logon and E-mail

3:00 Activity 2 - - The Internet and Library Catalogs

3:45 Summary Acivities
Small group discussions
Evaluation Questionnaire

4:00 Adjourn

4

Communication Software

The workshop will assume that the MSDOS program Procomm is being used. This is a shareware package available from Datastorm Technologies, Inc., P.O. Box 1471, Columbia, MO 65205. Other popular programs could also be used for these activities. If the participant needs a communication program, the campus Computer Center can assist in selection of a suitable program.

5

Site Specific Access Methods
Phone in Sites

Site Name: __PINET_____

Your Login Name: _____

Your Password: _____

These above two pieces of information will be assigned by the System Administrator of your site.

Phone Number: 1-800-847-0947

Baud Rate: 300 (1200) 2400 9600 (Circle one)

Parity: (Even) Odd No parity (Circle one)

Number of bits: (7) 8 (Circle one)

Echo on: (No) Yes (Circle one)

These items will be necessary to set the communications software. If you are unsure of which parameters are needed for your system, contact your System Administrator. The version of Procomm used in the workshop has these parameters set for the equipment provided.

To logon to PINET dial the number above. With Procomm this is done by pressing , <Alt> D Then select +1. In response to USER: type your login name above. Follow this by your assigned password. For your own private account, you should never reveal the password to anyone. As you type the password will not be printed on the screen. The passwords used in the workshop are changed following each workshop.

After this login procedure, the welcome screen should be seen. Access to both e-mail and the Internet is made by following the menu. Refer to Activity 1 in the workbook.

A Brief History of the Internet

The Internet began around 1969 with the formation of the ARPANET. This network consisted of several Department of Defense research sites that had a need to share information quickly. Over the years more and more research sites were connected to this network. In 1986 the National Science Foundation established a network (NSFNET) to allow all researchers and scholars to share in the benefits of network information exchange. In 1990 the ARPANET was closed, but all operations were still carried by the many thousands of interconnected computers and the NSFNET. This collection of computer networks is called the Internet. The Internet is not owned by any one agency or group, but exists through the mutual cooperation of all participants. A standards setting body called the Internet Society operates to allow all to agree to its operation. Since a portion of the Internet is funded with federal dollars, that part of the network can not be used to engage in for-profit activities. The NSF has an acceptable use Policy for information traveling on those systems. This situation is currently changing as the NSF is seeking to shift most of the activity to a common carrier provider. This will change the acceptable use policy. The growth of the Internet has been exponential since 1980 (Le Quay, 1992)

There are three primary ways one can gain access to the Internet.

(1) Many colleges have installed local area networks (LANs) with connections to the Internet. Colleges usually pay a fixed fee for this service regardless of user activity and so no charge is made to the individual user. With this facility a faculty member or student needs only a local account to access the full features of the Internet.

(2) Some professional societies offer information services to their members including Internet access. There is usually a users fee associated with the service.

(3) Recently, commercial data services have included Internet access. These companies usually charge a per hour fee.

By understanding each of these Internet providers the teacher/ scholar can select the most appropriate method for their situation. This also assures that all faculty can have access to the Internet. Once contact to the Internet is made, through one of these three methods, the techniques provided in this workshop to travel the net are the same.

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Activity 1
Logon and
E-mail

Traveling the Data Highway
A Faculty Development Workshop
PINET Version

Workshop Coordinator
P. Cunningham
CCAC, South Campus

ACTIVITY 1

E-Mail

LOGON

Refer to the site specific handout provided by the workshop coordinator. The logon procedure will be a little different for each location and host computer. This activity sheet will provide examples from the PINET system.

Once logon is achieved your screen should present a menu of available services. For example, PINET, the service provided by American Institute of Physics, provides the following menu:

```
<< TOP MENU >>

 1.  Communications Services   (E-Mail, Internet, Fax, Telex)

 2.  Information Services  (Online Databases and News Services)

 3.  Subject Index

 4.  System News

 5.  Description of Services

**********************************************************************

1993 Edition of the PINET User Manual is available,
     type "go manual"

TYPE "mail" FOR DIRECT MAILBOX ACCESS
TYPE "help" AT ANY TIME FOR MORE HELP
```

Use your menu to select the e-mail facility, by typing a 1 and <Enter> at the prompt. This will produce the following menu. Type a 1 and <Enter> at the prompt to enter e-mail.

```
<< MAIL - MAIN MENU >>

 1.  Enter Interactive Mail
 2.  Mail Forwarding (Forwarding your PINET mail to other hosts)
 3.  INTERNET Access & Other E-Mail/Communications Services
          (Telex, Fax, Omnet, Telemail, Nasamail)
 4.  Bulletin Boards
 5.  Guide to Electronic Mail (Prepared by The American
     Astronomical Society)
 6.  Test Remote Host
 7.  Compress/decompress files in home directory
```

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It is also possible to enter e-mail by typing at the first prompt the command:

mail <Enter>.

READING E-MAIL

Most systems will inform you if new mail is waiting to be read. Depending on the system being used, you will either see a list of the messages or need to issue a command to see the information. On PINET for example, the command, h, will give a list of the mail messages.

```
(msg  1 of 13) Mail command: h

No Stat    Subject          Sender                MM/DD/YY Lines

 1   R  fyi#100_distr       fyi                   07/27/93    72
 2   R  fyi#101_distr       fyi                   07/28/93    97
 3   R  fyi#102_distr       fyi                   07/29/93    72
 4   R  Re: pmail access    "David Harris"        07/30/93   259
 5   R  fyi#103_distr       fyi                   08/3 /93    75
 6   R  fyi#104_distr       fyi                   08/4 /93   111
 7   R  fyi#105_distr       fyi                   08/9 /93   136
 8   R  fyi#106_distr       fyi                   08/10/93   103
 9   R  fyi#107_distr       fyi                   08/17/93    79
10   R  fyi#108_distr       fyi                   08/19/93   108
11  >R  Workshop Message    Pearley Cunningham    08/21/93    34
12   R  fyi#109_distr       fyi                   08/26/93    94
13   R  fyi#110_distr       fyi                   08/27/93    94
```

All mail systems report the information shown on the PINET listing: message number, status, subject of message, name of sender, date of message, and length of message measured as 80 character lines. Locate the message number for the message with the subject of "Workshop Message". This was sent to your account in preparation for this workshop. It may not be the first message in the list.

Type **READ <message number> <enter>**

For example:

READ 11

After reading the message, you have several options: read again, reply to the message, save the message, delete the message, or transfer the message to the local disk drive.

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Saving to the Local Drive

By saving the message to the local drive it can be transferred into your favorite word processor. If you are working on a document with someone at a distance, this can be very helpful. If using the program Procomm, it is possible to save your message to the floppy disk on your personal computer. This process is called message logging. Place a formatted floppy disk in drive A of your computer.

Press **ALT F1** (both keys need to be held down together).

The message below will come on the screen.

```
Enter LOG FILE name, or CR for default:
```

Type **a:mail.txt <enter>** .

Now anything on the screen will be placed in a disk file. The activity light on the floppy drive should indicate the message is being received.

Type **SCROLL <message number> <enter>**

For example, **SCROLL 11.**

After the message is received,

Press **ALT F1**

to end the logging operation. A copy of the message used in the workshop is shown in Appendix A.

Delete Message

On most systems the word delete <message number> or del or de followed by the message number will remove a message. Once this is done, it is gone. You usually have no way to restore the message. On some systems the message will not be completely removed from the system. For example, it may be logged into an activity file, or reside on backup tapes. However, only the system administrator would have access to these messages.

BEST COPY AVAILABLE

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Save Message

On many systems the user will be allocated disk space to store messages and files on the main system. If only a terminal is provided, this is a necessity. The philosophy of this workshop is to keep all files possible on your local personal computer.

Sending a Message

To gain experience in this process, send the short message below to someone in the workshop or to your instructor. The appropriate address will be provided by the workshop coordinator. To send a message type

SEND <enter>

Your system will prompt you for the needed information. Be ready to type in the user name as provided by your workshop coordinator. To compose the message type in the text as though you were using a simple text editor or word processor.

```
Message:

Dear <name>,
So far the workshop is moving well. I hope this e-mail
is received quickly.

Bye for now,
<your name>
```

Reply

Another method to send a message is to reply to a message that you have just read. If you select the reply option, the address will be automatically taken from the current message. The text of the reply is entered in the same manner as the message above. You may wish to try to respond to the e-mail just sent to you by a member of the workshop. Remember to use the header command, h, to see your message list. The reply command is **an**. For example,

an 11

will put you into the send mode with the address taken from the author of message number 11.

Delete

Use the delete command to remove the workshop message from your mail box. Type

de <message number>

For example,

de 11.

This concludes the hands-on activity for e-mail. Use the appropriate procedure to end communication with your host computer. For PINET use the command q, followed by the command off. If you are not sure which procedure to use try one of the terms below, in this order:

quit
q
off
logoff
exit
<Ctrl> C
<Ctrl> D

If you issue the wrong command, the system will not respond. No harm will be done by any of these commands.

Happy E-mailing!

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Summary of Select E-mail Commands for PINET

Command	Short Form	Operation Performed
Answer	an	reply to sender of mail message
delete	del, d	mark message for deletion upon quitting
exit	x	leave mail without making any changes
undelete	un, u	unmark messages for deletion (must be done before you quit session)
find		search for PINET user ID
forward		send copy of message to another address
headers	h	display message headers
read	re	display message one scren at a time
scroll		display messages continuously
send		send an e-mail message
quit	q	leave mail, save changes and perform deletions

All commands work with the current message. With some commands if a number follows the command, that message will be used instead of the current message. For example:

del 11	deletes message number 11
an 11	starts the reply process for message number 11
scroll 1-5	continuously displays contents of messages starting with number 1 and ending at the end of number 5

Appendix A

Message #11 (34 lines)
From cunningp@alpha.acast.nova.edu Sat Aug 21 21:41:45 1993
Date: Sat, 21 Aug 93 21:39:44 -0400
From: cunningp@alpha.acast.nova.edu (Pearley Cunningham)
To: plc2@aip.org
Subject: Workshop Message

Welcome to the world of e-mail! This message is being sent as a trial for use during the Traveling the Data Highway Workshop. Some conventions are worth noting:

1. Always identify yourself in the text of the message. Some systems may not supply your full name with the message header.

2. Always use a description in the subject field so the person receiving the message has some idea of what to expect.

3. Use mixed case letters as in any correspondence. ALL CAPS IS LIKE SHOUTING. You need not shout to be heard on e-mail.

Good Luck in the remainder of the workshop.

P. Cunningham
PLC2@AIP.ORG

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Activity 2
Library Catalogs on the Internet

Traveling the Data Highway
A Faculty Development Workshop
PINET Version

Workshop Coordinator
P. Cunningham
CCAC, South Campus

Activity 2: Searching Online Libraries

Introduction

One of the most interesting applications of the Internet is the ability to access the Online Public Access catalogs (OPAC) at many libraries around the world. There are several hundred libraries that are open to anyone on the Internet. The service that allows your personal computer to electronically travel to remote libraries is called Telnet. The technique used to access Telnet depends on the computer system through which you are connected to the Internet. On some systems you select Telnet from a menu; on others you would type Telnet at the prompt. To contact a library it is necessary to have the Internet Protocol, IP, address. For example, the IP address of Dartmouth College's Baker Library is

baker.dartmouth.edu.

At the Telnet prompt type open and then the IP address.

Telnet> **open**
(to) **baker.dartmouth.edu**

After a short while the computer will report either a successful connection or no connection. There are several reasons that no connection may be reported. For example, the following conditions may prevent a successful connection:

(a) attempting to access a site with limited hours
(b) the site has few input ports.
(c) site has restricted access.
(d) time zone differences (10 am in Pittsburgh is still 7 am in California). A site open from 8 am till Midnight would report no connection.

Included with this activity packet are summaries of 10 library sites. These libraries allow searching the OPAC by author name, book title, or subject keyword. Access methods and procedures for each of these sites were confirmed before their inclusion in this list. A list of library catalog sites has been compiled by Art St. George of the University of New Mexico and Ron Larsen of the University of Maryland (1991). Addtional information is also available online through the California Polytechnic Institute library. These were the sources for the workshop list.

Project 1: The OPAC

To gain experience in using the Telnet facility, suppose you need a set of references on adult education. The first step is to select a library from the list. Any of these libraries should provide several references. Logon to your computer in the same manner as when using e-mail. Either select Internet or Telnet at the menu, or type Telnet at the prompt. For example,

Telnet> **open**
(to) **gate.cis.pitt.edu**
Trying...
Connected to nss.nic.pitt.edu
Escape character is '^]'.

VAX/VMS V5.3-2 (nss.nic.pitt.edu)

Note the response to the (to) is the IP address. These addresses are listed for each site in the attached directory. Follow the instructions on the site description to contact the OPAC.

You can now search the catalog as if you were physically at the library. Use the Print Screen feature of your personal computer to capture the information on your references. (You could turn on the logging feature, used with e-mail, and keep a complete record of all transactions.) Try to find three to five interesting references on the topic. Your local library can obtain these by inter-library loan. To exit the current catalog and return to your local prompt, check each library description for logoff instructions. To travel to a second library, just repeat the Telnet process with the new IP address.

Project 2: ERIC

An excellent resource on educational topics is the Educational Resources Information Center (ERIC). The ERIC database lists books, monographs, reports, speeches, and other documents related to education. The database is available from the University of Saskatchewan library. To access this library, Telnet in the normal manner and once online, select ERIC. By following the "on-screen" instructions, you should be able to add several references from the current literature to your list. On ERIC it may be necessary to limit the search. Use logical operators like AND to limit the search. For example,

adult education and English.

Activity Summary:

At the conclusion of Activity 2 the workshop leader will call you into small groups to discuss your experiences and impressions. You may wish to share your bibliography with others and compare what references were located. Some additional questions for discussion may be;

(1) What problems did you have? What problems might you have back at your office?

(2) How can these tools help your teaching and scholarship?

(3) What additional assistance would be helpful?

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Online Public Access Catalogs

Traveling the Data Highway

1. California Polytechnic State University - John F. Kennedy Library
2. CARL: Colorado Association of Research Libraries
3. Dartmouth College - Baker Library
4. Harvard University
5. John Hopkins University - Milton S. Eisenhower Library
6. New York Public Library
7. Purdue University
8. University of Saskatchewan
9. University of California
10. University of Pittsburgh

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Useful Online Public Access Catalogs

1. California Polytechnic State University, San Luis Obispo

POLYCAT, The Cal Poly, SLO.
John F. Kennedy Library
Online Catalog

For information write:
Polycat Services
Kennedy Library
Cal Poly
San Luis Obispo, CA 93407

or e-mail to
ilene@library.calpoly.edu

(805)756-2344(LibraryOffice)

Polycat is the online catalog of Kennedy Library at California Polytechnic State University at San Luis Obispo, California. All of the 500,000 volumes in the main collection are included. The interface is through an Internet Gopher. The connection requires a true VT100 emulation. Not only does your PC need this connection but, the system through which you connect to the net must provide VT100 emulation.

IP Address: **library.calpoly.edu** (129.65.20.21).
No special login requirements are necessary.

The online catalog is available to everyone. However, Kennedy Library reserves the right to restrict access to local patrons, should that be necessary.

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2. CARL: Colorado Association of Research Libraries

CARL is a system of two year, four year college and university libraries in the state of Colorado. The card catalog of all these libraries is open to anyone. CARL represents over 6.1 million references.

IP Address: pac.carl.org

Sample LOGON proceedure

Telnet> open
(to) pac.carl.org
Trying...
Connected to pac.carl.org.
Escape character is '^]'.

WELCOME TO PAC.CARL.ORG [WINDOW $ZT0.#PTY6]
T9553C21 TELNET SERVER 18SEP92 VERSION AAR

Available Services:

EXIT PAC
Enter Choice> PAC
Welcome to the CARL system
Please identify your terminal. Choices are:
1.ADM (all)
2.APPLE,IBM
3.TANDEM
4.TELE-914
5.VT100
6.WYSE 50
7.ZENTEC
8.HARDCOPY
9.IBM 316x
Use HARDCOPY if your terminal type isn't listed
SELECT LINE #: 2

All set. When you are ready to exit the system, simply
type //EXIT, or hang up.

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3. Dartmouth College Library Online System
Baker Library

This source contains in addition to an online catalog, full text access to the Bible and Shakespeare's plays and sonnets. (Other services are provided, but they are available only to Dartmouth campus based users.)

IP Address: **baker.dartmouth.edu**

No user name or login procedure is required.

Logoff: <CTRL>] followed by a q for quit.

4. Harvard University

HOLLIS - Harvard Online Library Information System

The catalog holds data for Harvard (HU) collection and also Widener Library material (OW). These collections have no access restrictions.

IP Address: **hollis.harvard.edu**

Press <CR> at the prompt to get VT100 emulation.
At the next prompt type Hollis.

Logoff: ESC xx

5. John Hopkins University Library

Janus is the Online Catalog of the Milton S. Eisenhower Library at The Johns Hopkins University. Janus can be used to find bibliographic, call number, and location information for 91% of the materials held by the Eisenhower Library.

IP Address: **JHUVM.HCF.JHU.EDU**

Hours: 7:00 am to Midnight

At the prompt for login type DIAL JANUS <CR>

Logoff: Type at any prompt
<CR>

6. The New York Public Library Online Catalog

This source contains the collection of titles and references for the main library and all branches.

IP Address: **nypigate.nypl.org**

At the login request type: nypl <CR>
For password type: nypl <CR>

Logoff: Type q at any screen to return to the main menu
then select EXIT NYPL.

7. Purdue University

THOR - The Online Resource is an online database of books, periodicals, and materials in the Purdue libraries. All materials after 1976 are listed and some earlier material is also listed.

IP Address: **lib.cc.purdue.edu**

Logoff: q to return to menu and Quit to disconnect.

8. University of Saskatchewan Libraries

This source features several databases and an online catalog. Although the system is easy to use, getting references from an out-of-country source can be difficult. The special interest here is the ERIC database (1983 -present). It is available to anyone and has an easy-to-use menu driven software.

IP Address: **SKLIB.USASK.CA**

User name: SONIA

Select Education Databases then ERIC.

Logoff: Type Q to quit also <CTRL> \ will disconnect you from the system.

Note:

Remember, if using the Procomm terminal program typing <ALT> F1 will log your screen output and allow you to review all your searches and found references off line. Typing <ALT> F1 a second time will turn off the logging operation.

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9. The University of California MELVYL (R) Catalog

Division of Library Automation
University of California
Office of the President
300 Lakeside Drive, 8th floor
Oakland, California 94612-3550

lynch@postgres.berkeley.edu

(415)987-0555(MELVYLCatalogHelpline)

The MELVYL catalog is a computer-based library catalog of more than 5.5 million unique book titles representing 11 million holdings of all libraries in the nine-campus UC system and the California State Library. The catalog contains records of book and periodical (serial) holdings, and other materials such as maps, films, musical scores, and sound recordings. Collection strengths include agriculture, dry lands, oceanography, entomology, performing arts (especially film and television), photography, Californiana, materials on Mexico and Central America, 17th and 18th century British literature, health sciences, science fiction, and many others.

The periodical file, containing more than 640,000 unique titles of newspapers, journals, proceedings, etc., includes the holdings of Stanford University, the University of Southern California, the nineteen-campus California State University system, and selected other libraries.

The DLA Bulletin and Mynd of the MELVYL Catalog, two publications describing the online catalog and its development and use, are also available online. The MELVYL catalog also provides TELNET access to other remote library systems.

IP Address: **melvyl.ucop.edu**
(31.1.0.1, 31.0.0.11, 31.0.0.13, 31.1.0.11)

For information contact:
Clifford Lynch, Director
(calur@uccmvsa.bitnet, lynch@postgres.berkeley.edu)
(415) 987-0522
MELVYL is a trademark of the Regents of the University of California.

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10. University of Pittsburgh

In addition to the University of Pittsburgh, this Internet address can give you access to Carnegie-Mellon University and The Carnegie Public Library of Pittsburgh.

IP Address: **gat.cis.pitt.edu**

Login: From the menu screens select the service and the terminal type. (If using the Procomm software, select VT100.)

Logoff: Press <CRTL> \ to quit and
<CTRL> @ for command prompt.

Sample login:

TELNET> open
(to) gate.cis.pitt.edu
Trying...
Connected to nss.nic.pitt.edu.
Escape character is '^]'.

VAX/VMS V5.3-2 (nss.nic.pitt.edu)

---------- PittNet Terminal Gateway Services ----------

Service	Description
CAROLINE	The Carnegie Library of Pittsburgh's on-line library catalog
CMULIS	Carnegie-Mellon University's on-line library catalog
CPWSCA	Pittsburgh Supercomputing Center front end A
CPWSCB	Pittsburgh Supercomputing Center front end B
CTERM	CCnet hosts via the DECnet (CTERM) protocol
ISISINFO	Integrated Student Information Services Access
LAT	DECserver (LAT) services
PITTCAT	University of Pittsburgh's on-line library catalog
PSCYMP	Pittsburgh Supercomputing Center Cray Y/MP
TELNET	Hosts via TCP/IP (TELNET) protocol
TN3270	Hosts via TCP/IP (TN3270) protocol

Instructions: Type the desired SERVICE name below and press RETURN.
If a "Password:" prompt appears, the service name you requested was invalid or private; press RETURN twice and retry.

Service: PITTCAT